Complete Summary

GUIDELINE TITLE

Assessing heart failure in long term care facilities.

BIBLIOGRAPHIC SOURCE(S)

Harrington C. Assessing heart failure in long term care facilities. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Translation and Dissemination Core; 2006 Oct. 36 p. [30 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Heart failure

GUIDELINE CATEGORY

Evaluation
Management
Treatment

CLINICAL SPECIALTY

Cardiology
Geriatrics
Nursing

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To outline a systematic approach for the assessment of heart failure and prevention of hospitalization of nursing home residents by utilizing direct caregivers in the early identification of heart failure symptoms

TARGET POPULATION

- Geriatric patients with classification I, II, III, or IV heart failure according to the New York Heart Association (NYHA) criteria (see appendix E in the original guideline document) and who reside in long term skilled nursing facilities
- Geriatric patients who have an ejection fraction of $\leq$ 40% measured by two-dimensional echocardiogram who reside in long term skilled nursing facilities

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

Admission assessment by a registered nurse using the long term care (LTC) Heart Failure Assessment Tool

Treatment

1. Weight monitoring
2. Dietary management
3. Immunizations
4. Encourage exercise
5. Patient and family education

MAJOR OUTCOMES CONSIDERED

- Hospitalization due to heart failure
- Quality of life
- Exacerbation rate
- Echocardiogram stabilization or improvement

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Databases searched

A systematic review was conducted using the University of Iowa Gerontological Nursing Interventions Research Center's conceptual model for evidence-based guidelines (Titler & Adams, 2005, See "Availability of Companion Documents" field in this summary). The review of research and non-research literature was conducted over a two-year period for the years 1999-2004. Searches were performed using Ovid®, CINAHL®, EBSCO®, ProQuest®, MEDLINE®, and WebSpir® databases. National guideline searches were performed using the Agency for Health Research and Quality database. Combination phrases were searched using the Northwest AHEC digital library and the University of North Carolina at Greensboro Jackson Library database. Hand searches were then performed of all reference lists of relevant studies or non-research based literature.

Inclusion and Exclusion Criteria

Criteria for inclusion for research literature included studies published within the specified timeframe; those conducted at nursing home facilities; or those that described the symptoms of exacerbation and hospitalization of residents with heart failure. Non-research based literature was utilized to obtain the most relevant signs and symptoms of heart failure. Only published sources written in English were used.

Keywords

The following search terms were used: "congestive heart failure", "nursing home", "skilled nursing facility", "long term care facility", "geriatric mortality", "nursing home patients," and "extended care facility", "congestive heart failure: mortality, complications, and diagnosis" combined with "aged 80 and over" and "aged". All combinations of the previous phrases were then searched.

NUMBER OF SOURCE DOCUMENTS

Seven studies met the inclusion criteria and were selected for use in assessment, making recommendations or providing additional information for this guideline.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Grades of Evidence

A1 = Evidence from well-designed meta-analysis or well-done systematic review with results that consistently support a specific action (e.g. assessment), intervention, or treatment

A2 = Evidence from one or more randomized controlled trials with consistent results

B1 = Evidence from high quality evidence-based practice guideline

B2 = Evidence from quasi experimental trials with consistent results

C1 = Evidence from observational studies with consistent results (e.g. correlational, descriptive studies)

C2 = Evidence observational studies or controlled trials with inconsistent results

D = Evidence from expert opinion, multiple case reports, or national consensus reports

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Experts in the subject of the proposed guideline are selected by the Research Translation and Dissemination Core to examine available research and write the guideline. Authors are given guidelines for performance of the systematic review of the evidence and in critiquing and weighing the strength of evidence.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Two reviewers independently assessed studies for relevance and inclusion. Five regional experts in the fields of gerontology, long-term care, and the management of heart failure reviewed and critiqued the content of the assessment tools and completed guideline. An internal review was completed by five University of North Carolina at Greensboro faculty associate professors and nurse practitioners for content and face validity. External review was completed by three regional experts in heart failure and long term care. In addition, Research Translation and Dissemination Core (RTDC) conducted an internal review and external content review.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The grades of evidence (A1, A2, B1, B2, C1, C2, D) are defined at the end of the "Major Recommendations" field.

Assessment

Admission assessment by a registered nurse using the Long Term Care (LTC) Heart Failure Assessment tool (Appendix A.1 in the original guideline document) is recommended for baseline documentation for patients with:

- Documented diagnosis of heart failure, any cardiac diagnosis, hypertension, or diabetes on admission history and physical
- An ejection fraction of $\leq$ 40% measured by two dimensional echocardiogram, post hospitalization discharge summary, or
- Any Minimum Data Set that triggers a need for assessment by documentation of a new diagnosis of heart failure (HF) for cardiomyopathy or presence of respiratory, cardiac, or functional decline
- If the facility utilizes Minimum Data Sets for Nursing Homes (MDS) 3.0, assessment using the tool should follow if positive responses are indicated in Sections E1A, G1 and G2; Section I g and I h; and Section J1 and J5 (Centers for Medicare and Medicaid, 2005).

The admission nurse would obtain an order to initiate the HF guideline for the long term care resident who meets any of the above criteria and add the resident to the scheduled interdisciplinary team meetings for care plan update.

Use of the LTC Heart Failure Assessment Tool

The LTC Heart Failure Assessment tool is composed of two profiles that address three components of activities of daily living and eleven components of dyspnea. The assessing nurse is observing for decline in the resident's functional status and positive responses to questions in the dyspnea profile (Creason, 2001).

- The registered nurse documents the patient's status for the components in activities of daily living (ADL) Profile on admission and at four week intervals.
- The higher the score in the ADL profile, the lower the level of function. This score is compared with previous section totals at each assessment interval monitoring for longitudinal deterioration in functional status.
- The nurse then assesses the Dyspnea Profile. Any positive response in this section should trigger an immediate referral to the primary care provider for evaluation (Henkel, 2004; Martinen & Fruendl, 2004).
- If the responses in the dyspnea section are negative, the nurse should refer to the interdisciplinary team to assess for other causes in resident decline and schedule a visit with the primary care provider (Henkel, 2004; Lewis, 2002. *Evidence Grade = D*).

Each direct caregiver (certified nursing assistant) will:

- Be given "A NEW LEAF" card (Appendix A.3 in the original guideline document).
- Screen residents during the provision of care on a daily basis (Hutt et al, 2003. *Evidence Grade = C1*).
- Notify the primary nurse if any signs or symptoms are present and provide current vital signs and the weight graphic (Martinen & Fruendl, 2004. *Evidence Grade = C1*).

The assessment nurse will then:

- Perform an assessment utilizing the LTC Heart Failure Assessment tool and contact the primary care provider for evaluation of positive findings of possible heart failure exacerbation after he or she completes a cardiovascular assessment. This includes observation of
    - Respiratory effort
    - Bulging neck veins
    - Extremity edema
    - Auscultation of anterior and posterior breath sounds
    - Heart sounds listening for extra sounds and irregularity of rhythm (Dains & Scheibel, 2003)
- Vital signs (blood pressure, pulse, respiration, and pulse oximetry) and weight graphic should be available for the provider (Creason, 2001; Dains & Scheibel, 2003).
- Vital signs will continue to be monitored according to the primary provider's discretion or the long term care facility's procedure and policy.

Interventions

Weight Monitoring

- Residents are placed on a weight regimen by the nursing staff. Weights are obtained three times a week until the resident's weight has been evaluated as stable as defined by a weight gain of less than two pounds for three measurements. (Martinen & Freundl, 2004. *Evidence Grade = C1*).
- Weight is graphed on a weight graphic (Appendix A Example 2 in the original guideline document).
- Any weight gain of more than 2 pounds triggers:

1. An assessment using the LTC Heart Failure Assessment tool
2. Vital signs with oxygen saturation (Martinen & Freundl, 2004. *Evidence Grade = C1*).
3. Notification of the resident's primary care provider (Martinen & Freundl, 2004. *Evidence Grade = C1*).

- After the weight is stable, the resident is then weighed every week at the same time of day, with the same scale, and similar clothing (Martinen & Freundl, 2004. *Evidence Grade = C1*).
- If the resident's weight registers outside the shaded area in the four week period on the weight flow sheet, heart failure assessment is triggered and the primary care provider should be notified.

Dietary Management

Dietary measures to control the exacerbation of symptoms should be employed to include:

1. Reduction in fluid intake in patients with advanced heart failure (Grade III, IV) regardless of the presence of hyponatremia or hypernatremia.
2. Fluid restriction of 1.5 to two liters is advised (Remme & Swedberg, 2001. *Evidence Grade = B1*).
3. Use of herbal seasonings in lieu of salt to season foods should be encouraged (Lewis, 2002. *Evidence Grade = D*).
4. Sodium restricted diet to two grams of sodium per day with abstinence from salt substitutes which may contain potassium (Lewis, 2002. *Evidence Grade = D*).

Immunizations

- Influenza vaccines given every fall and pneumococcal vaccines given every five years are recommended to prevent respiratory infections which may be detrimental to heart failure patients (Remme & Swedberg, 2001. *Evidence Grade = B1*).

Exercise

- Weight reduction should be included in the treatment of obese chronic heart failure patients (Institute for Clinical Systems Improvement (ICSI), 2004. *Evidence Grade = D*).
- Exercise should be encouraged in the stable heart failure patient within the limits of the severity of disease.
- The resident should be encouraged to carry out activities of daily living and leisure activities that do not induce symptoms (Institute for Clinical Systems Improvement, 2004. *Evidence Grade = D*).

Education

- Patient and family education should be provided on topics related to heart failure (Martinen & Freundl, 2004. *Evidence Grade = C1*).

- Smoking should always be discouraged. The use of smoking cessation aids including nicotine replacement therapies should be actively encouraged (Remme & Swedberg, 2001. *Evidence Grade B1*).
- Patients and families should be taught the rationale for prescriber avoidance of nonsteroidal anti-inflammatory drugs and nursing staff should be alert to avoid administering them to residents with cardiovascular disease (Bleumink et al, 2003. *Evidence Grade C1*; Remme & Swedberg, 2001. *Evidence Grade B1*).
- Alcohol intake should be discouraged in patients with severe heart failure (Institute for Clinical Systems Improvement, 2004. *Evidence Grade = D*).

Definitions:

Grades of Evidence

A1 = Evidence from well-designed meta-analysis or well-done systematic review with results that consistently support a specific action (e.g. assessment), intervention, or treatment

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CLINICAL ALGORITHM(S)

A clinical algorithm is provided in Appendix F of the original guideline document titled, "Non-Pharmacologic Management of Heart Failure in Long Term Care."

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for selected recommendations (see "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Decreased hospitalization due to heart failure
- Improved quality of life
- Decreased exacerbation rate
- Echocardiogram stabilization or improvement

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The "Evaluation of Process and Outcomes" section and the appendices of the original document contain a complete description of implementation strategies.

IMPLEMENTATION TOOLS

Audit Criteria/Indicators
Chart Documentation/Checklists/Forms
Clinical Algorithm
Resources
Staff Training/Competency Material

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

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Harrington C. Assessing heart failure in long term care facilities. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Translation and Dissemination Core; 2006 Oct. 36 p. [30 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2006 Oct

GUIDELINE DEVELOPER(S)

University of Iowa Gerontological Nursing Interventions Research Center, Research Translation and Dissemination Core - Academic Institution

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GUIDELINE COMMITTEE

University of Iowa Gerontological Nursing Interventions Research Center Research Dissemination Core

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Author: Candace C. Harrington, MS, APRN, BC, NP-C

Series Editor: Marita Titler, PhD, RN, FAAN

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core, 4118 Westlawn, Iowa City, IA 52242. For more information, please see the University of Iowa Gerontological Nursing Interventions Research Center Web site.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Titler MG, Adams S. Guidelines for writing evidence-based guidelines. Iowa City (Iowa). Iowa City: University of Iowa College of Nursing, Gerontological Nursing Interventions Research Center, Research Translation and Dissemination Core. 2005.
- Appendices A - G of the original guideline document contain assessment tests. Available from the University of Iowa Gerontological Nursing Interventions Research Center Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 6, 2007. The information was verified by the guideline developer on February 21, 2007.

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